OP-58

Bioassay-guided isolation, identification, and evaluation of β-boswellic acid from Boswellia serrata Roxb. (oleo gum resin) against cancer cell lines

Madhulika Bhagat*, Pooja Sharma and Ajay Kumar
School of Biotechnology, University of Jammu, Jammu, J&K-180006, India

Background: There are no in-depth studies on the extracts of the gum resin of Boswellia serrata (BS), which contain many bioactive phytoconstituents and responsible for biological potential. The goal of this research plan was the isolation and purification of most active compounds from the gum resin of BS via bioassay-guided fractionation based on anticancer activity.
Methods and preliminary results: The silica gel column chromatographic techniques with different solvent systems were used for the separation of the constituents of the hexane extract of BS gum resin. The structures of the isolated compounds were assigned based on various spectroscopic analysis (high-resolution mass spectrometry,[1]H NMR, and[13]C NMR) and its comparison with literature data. The cytotoxic effect of all crude extracts, and isolated the compound β-boswellic acid was done through MTT assay. Among all the tested cancer cell lines β-boswellic acid showed best activity against Prostate cancer (PC3) with an IC50 value of 35 μg/ml.
Preliminary conclusion: The isolated β-boswellic acid from the gum resin of BS, showed strong anticancer activity against prostate cancer (PC3) in vitro and may be further developed as treatment regime for cancer.
Keywords: β-boswellic acid, Boswellia serrata , gum resin, HPLC, NMR, cytotoxicity.